

**Abstract.** *In the comparative study the authors analyze the relationship between the amount of public funds used for financing higher education, the financing mechanisms and the performance obtained by these, within the European Union member states. The performance criteria used for the optimization of the equilibrium between financial resources and the results of public higher education are also established. For this purpose, a series of performance indicators are analyzed in some of the European Union member states. Based on the research performed, the authors find differences between the European Union member states in higher education public funds financing, the new formulas and the financing mechanisms and in the use of performance, quantified by indicators. At the level of each of the member states, a relationship between public funds and performance is observed, each state using its own indicators evaluation system for establishing the amount of public funds to be used.*

*The authors of the research recommend that the new financing mechanisms should transform the policies in activities and resources and establish a rigours context of responsibility that should guarantee the connexion between funds and the results obtained quantified in performance.*

**Keywords:** public funding, higher education, funding mechanism, performance.

## **COMPARATIVE RESEARCH ON THE CORRELATION OF THE QUANTUM TO PUBLIC FUNDING FOR THE PUBLIC INSTITUTIONS OF HIGHER EDUCATION AND THE INSTITUTION'S PERFORMANCE WITHIN THE EUROPEAN UNION MEMBER STATES**

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## **1. Introduction**

This research emphasizes the correlation between the volume of funding from public sources, the funding mechanisms and the performance obtained by the public entities of higher education.

The first part of the comparative research deals with aspects referring to the features of funding mechanisms of the higher education systems and it presents several of the strategic priorities concerning their funding (focus on the growth of public funding, the optimization of the balance between the financial resources and results).

In the second part of the study the authors analyze the manner of funding of the public institutions of higher education in various member countries of the European Union and emphasize the funding mechanisms and performance indicators used into the public system of higher education.

The final part consists in the conclusions resulting from the comparative research on the correlation between the volume of public funding of the higher education entities and the performance obtained by them.

## **2. Characteristics of the funding mechanisms of higher education systems**

In the last decades, the higher education systems from Europe have faced a major transformation, influenced by national and international changes, as well as a fast growth of the students number, a slight decrease of public funding correlated with the deficient private financing, increasing importance of research and innovation within the world economy based on knowledge and a more pronounced competition between the higher education institutions.

Most of the developed or developing world states have been passing through a wide reform process, both at structure and contents levels, and in identifying and quantifying performance.

The education funding, as a priority component of education reform (Gherghina, 2009), should be approached in new terms, with reference to three main aspects: volume of funding, efficient management of budgetary resources and competitive performances.

The differences among the funding mechanisms of the higher education systems stand on both socio-economic and politic context of a country, and the place held by education within the priority objectives of the country.

In order to characterize the funding mechanisms of the education systems from various countries, the crisis term is used more and more frequently pointing out two aspects:

- crisis, with the meaning of impossibility of covering the costs for education exclusively from the state budget;

- crisis, with the meaning of emphasizing the inefficient management of the resources assigned to education.

Due to the changes into the education system during years, and mostly due to the decisions made not always coherently and consistently, the status of inveterate sub-financing of education has become more obvious (Moșteanu, Gherghina, 2008).

The transformations within education, since the '80s into the western countries and the '90s into ex-communist countries, have been mainly directed towards the decentralization of the funding mechanisms of education, discovering new formulae of funding, but also establishing national criteria of evaluating the educational performances.

The new funding mechanisms are intended to turn the policies into activities and resources, to establish a compelling framework of responsibility in order to assure the link between funding and the obtained results leading to performance.

The higher education path towards performance, its assessment and funding on quality criteria can remain only desiderata if there is no willingness to promote and apply them (Brătianu, 2005).

In this context, the application of a funding system oriented to results can be done in specific conditions (culture, traditions, levels of development etc.), without giving up the mechanisms generating performance.

Certainly the state financial effort for education consists in the consumption of public financial resources (resulted from taxes and duties levied by state) intended for this activity.

It is a lawful right of the state to use the public funds, and it is also a responsibility of those who manage these funds to use them in the benefit of the society.

In the light of the facts presented above, there is suggested the urgent modification of the current financing system, so that it should allow a system stimulating the reorganization of the higher education system taking into consideration a competitive market of training services, and the access to the public resource of universities and students should be selective in relation to performance quantified through indicators of results.

If the public funds allocated to education are not efficiently managed to achieve the system performance, then the size of these funds is irrelevant.

In other words, from either point of view, the economic insecurity diminishes the available resources of the educational system.

Therefore, the funding of education has permanently been an eligible field receiving mainly public funds. The budgetary coercions raise both the issue of optimum allocation of resources and the issue of competitive funding of the educational services.

In the member states of the European Union, the education funding is based on the level of economic development of each state.

With reference to this aspect, several characteristics of the funding mechanisms appear:

- funding of all types of education in the European Union countries is a complex issue depending mainly on the level of economic development of each country;
- in order to have comparisons as close as possible to the Union countries realities, there is required the same educational structure into these countries (levels, grades etc.), the same methods of calculation and allocation of funds from the public budget etc;
- regulations consistent with all the Union countries in terms of assignment and usage of funds; when talking about higher education, the possibility and increased necessity of private funding to supply it within a competitive market, will lead to efficient allocation of resources and will satisfy to a larger extent the equity;
- the need to increase the funding resources and the growth of their volume by concluding public-private partnerships between the public authorities and the other participants (economic agents, natural persons, social partners);
- it should be taken into account the common action of many factors such as demographic, social and political ones, besides the economic factors, when considering the growth of public expenses for education (tuition).

Instead, in the developing countries, it is very important to achieve economic progress and for the educational system funding there should be created new funding mechanisms to increase the number of participants to the system funding. Also, an important factor within the growth of financing sources of the educational system into these countries is the political stability (Mons, 2007).

Therefore, the funding mechanism is complex, depending on the level of development of each country, but the manner of managing the resources for education is important.

### **3. Priorities regarding the funding of public higher education entities**

#### **3.1. Growth of the public funding volume**

For the decision makers, the growth of the public funding for higher education is currently the topic of a national strategic policy or reform.

At 2004 level, public expenses for higher education were 1.14% of GDP into the 25 member states of the European Union. Besides, the public expenses for higher education were more than 2% of GDP in Denmark, Finland, Sweden and Norway in the same year.

Among the countries with a sound plan for a general growth of the public funding, Belgium (Flemish community) forecasts a 10% growth during 2007-2010.

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In 2008, Austrian Federal Government spent 12% for higher education more than in 2009, and for 2010 a new growth is forecast.

The quantum of public funding for higher education is also growing in the United Kingdom. For example, England registered almost 5% growth in 2008 as compared to the previous year. In Ireland, the public funding increased with 6% in 2008 as compared to 2007. In Island, the public expenses for higher education will reach 2% of GDP by 2010 as compared to 1.59% in 2005.

But in most of the countries there is a clear drive towards a bigger autonomy for the entities of higher education from institutional policies point of view, and especially, from point of view of institutional management of budgets. For example, in the United Kingdom, higher education entities traditionally enjoy wide autonomy, including the financial resources. More than 20 years, the Netherlands universities have had a significant autonomy, and higher education entities from Island have had full autonomy for the financial resources management since 1997. In the other countries the institutions of higher education have recently started functioning with more autonomy and setting up personal policies for the management of financial resources, taking into account the specific operational needs and the strategic development plans. This process is compulsory accompanied by various control mechanisms such as yearly reporting, internal and external audit, etc.

At mondial and European level, most of the national policies are encouraging the institutions of higher education to rely more and more on private funding sources, though public funding keeps representing great part of the budget of higher education (Escotet, 2006). In 2007, into the 27 EU member states, 79.9% of the funds for the entities of higher education came from public sources. In five countries there was registered a percentage under 70%: Poland (69%), Cyprus (65.8%), Lithuania (61.8%), Bulgaria (55.2%) and Latvia (44.9%). In this context, the methods used by the public authorities for financing the entities of higher education should be closely analyzed because they can significantly influence the institutional strategies.

Besides, a certain degree of change has become visible in Europe in respect of the funding mechanisms for higher education. For example, in many countries the funding mechanisms have been involving negotiations between the institutions of higher education and the state in respect of the granted amounts, the calculation of these amounts having as basis the real costs incurred by entities and the award of grants on budgetary categories (CEGES, 2007). In other countries, for almost 15 years, there were introduced global subventions and calculation formulae of the granted amounts, as well as measures for correlating the quantum of public funding and the entity's performance.

In the report (Commission of the European Communities, 2006) on the modernization of universities, Delivering on the Modernization Agenda for Universities: education, research and innovation, the European Commission underlined the importance of granting funds mostly for performances rather than for real expenses. Therefore, there is made an attempt to answer the following questions for each European country:

- Is public funding of the institutions of higher education based on their performance? Which are the other criteria taken into account?

- Does the allocation of public funds function as a stimulus for the public entities to achieve the strategic objectives set up at national level by a performance contract for example?
- Does the research financed by public authorities serve in supporting infrastructures and on-going activities or is it limited to subventions granted for specific projects?
- How do the institutions of higher education take on responsibility for the received public funds?
- Can the institutions of higher education carry the unused funds from one year to another?

The decision makers' resolutions on these questions allow aiming at certain goals, including the increase of quality and the rationalization of resource usage. Also, these can lead to debates regarding the deliberate or involuntary repercussions of the strategic policies of higher education institutions.

### **3.2. Funding mechanisms. Balance optimization between the financial resources and results**

To use funding formulae for the calculation of the quantum of public funds allocated to the higher education entities is very common for Europe (Salmi and Hauptman, 2006). However, the importance of these formulae, in comparison with other mechanisms of assigning public funds, is different from one country to another (Figure 1).

In Belgium (French language community), Lithuania, Hungary, Romania and Liechtenstein, the funding formulae are the only method used for the calculation of public funds allocated to the institutions. Also, the funding formulae set up almost the entire recurrent annual subvention allocated to the universities from Ireland, and in England the size of global subvention allocated to the institutions of higher education is calculated to a large extent on the basis of a funding formula. In Bulgaria the funding formula is used to the calculation of study costs representing 80% of the public funds.

Instead, several countries have introduced funding formulae, besides the methods of public funds calculation, which do not depend on the parameters used in the funding formula (Werner, Hirsch Weber, 2001). This can imply keeping the same amount from one year to another (in Flemish community from Belgium and the Netherlands), taking into consideration the previous costs (Denmark, Italy, Poland, Slovenia and Norway) or facing some specific financial difficulties (France) of certain institutions (Pons, 2008). The mechanisms of allocation can be used for the objectives achievement, such as resource stability and research freedom (Denmark and Norway).

Besides the funding formula, several countries assign public funds within performance contracts, fact involving a negotiation procedure based on general objectives of higher quality than those included in formulae. Sometimes these contracts counterbalance the impact of the funding formula on the total amount significantly allocated, as it is Austria's case.

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	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU
Negotiation of the budget with the funding body on the basis of a budget project submitted by the entity		●		●					●	●				●			●
The budget established by the funding body on the basis of prior costs						●				●			●				
Funding formula	●	●	●	●	●	●	⊗	●	●	●	⊗	●	●		●	●	
Performance contracts based on strategic objectives			●		●	●				●		●					●
Contracts based on a given number of professional graduates								●							●		
Funding for certain research projects awarded by tender procedure	●	●	●	●	●	●		●	●	●		●	●		●		:

  

	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK-ENG/ WLS/NIR	UK-SCT	IS	LI	NO
Negotiation of the budget with the funding body on the basis of a budget project submitted by the entity		●				●		●								
The budget established by the funding body on the basis of prior costs					●									●		●
Funding formula	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●
Performance contracts based on strategic objectives				●		●	●		●	●				●		
Contracts based on a given number of professional graduates																
Funding for certain research projects awarded by tender procedure	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

● The mechanism is applied.

⊗ Depends on the regional authority.

: Data not available.

**Source:** Eurydice (2007).

**Figure 1. Mechanisms of direct public funding for the institutions of public higher education**

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Central authorities are more and more interested by the balance optimization between the financial resources invested into higher education and the performances obtained within this sector.

In this respect, they set up funding mechanisms which have as a goal the correlation of performance with future allocation of public funds. The mechanism is created through a process of budget negotiation and signing of contracts between the institutions of higher education and the resort ministry or by systems of setting up certain formulae, among which there are the performance indicators (Figure 2).

Such policies have already been thoroughly established (in Estonia since 2002, in the United Kingdom since 1986), and similar reforms have been recently introduced in other countries (in Austria since 2007) or they are being implemented (in Flemish community from Belgium since 2008).

	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU		
Indicators concerning the students' results					●	●		●					●		●				
Decrease of personnel costs														●					
Teaching personnel's training level																			
Results of the assessment of entities								⊗				●	⊗					●	
Quality of infrastructure, management and services offered to the academic community																			

	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK-ENG/ WLS/NIR	UK-SCT	IS	LI	NO
Indicators concerning the students' results	●		●	●		●		●	●	●	●	●			●	●
Decrease of personnel costs																
Teaching personnel's training level					●	●	●									
Results of the assessment of entities						●										
Quality of infrastructure, management and services offered to the academic community							●									

● The criterion is used.

⊗ Depends on the regional authority.

Source: Eurydice (2007).

**Figure 2. Performance criteria used for balance optimization between the financial resources and the results of the public institutions of higher education**



### 3.3. Performance indicators within the public funding mechanism

The public funding models for the European higher education are the levers through which central governments follow their strategic goals into this sector. Almost all the European Union countries make sure that the institutions of higher education are responsible for the use of public funds by establishing a connection between the granted funds and the entities' performance (Chevaillier et al., 2002).

This fact involves taking into account the performance indicators when using the funding formulae to calculate public funds. Each country links the public funds with the obtained performances and has its own manner of assessing the indicators importance in setting up the amounts.

The funding formulae represent the way to increase the public funding transparency by objectively distributing the available funds among the entities and by avoiding the excess political pressures.

In most of the states (Sadlak, and De Miguel, 2006) the funding formulae are based on input criteria referring to the volume of institutional activities. In most cases, the funding formulae also include performance criteria related to the results obtained by an entity during a given period of time (Table 1).

Approximately half of the countries use performance indicators based on students' (Hanushek and Raymond, 2004) results for setting up the quantum of funds allocated to the teaching and functioning activities.

Table 1

**Funding mechanism of the public institutions of higher education within European Union member states based on input criteria and performance indicators**

State	Input criteria	Performance indicators
CZECH REPUBLIC	<ul style="list-style-type: none"> <li>- number of students registered in the previous year balanced with the cost of studies in each accredited programme;</li> <li>- study programmes are divided in seven categories according to cost;</li> <li>- the annual growth of students number registered in each institution is determined by negotiation between the institutions of higher education and the Ministry of Education, Youth and Sports.</li> </ul>	<ul style="list-style-type: none"> <li>- students who overpass the standard study period with more than one year;</li> <li>- number of graduates balanced with the cost of study programmes and the level of study.</li> </ul>
IRELAND	<p>For 95% of global funding:</p> <ul style="list-style-type: none"> <li>- number of registered students;</li> <li>- balance of cost per student in accordance with four main categories of studies. Several characteristics are taken into account:</li> <li>- under-privileged environments;</li> </ul>	<p>For 5% of global funding:</p> <ul style="list-style-type: none"> <li>- number of doctorate graduates;</li> <li>- master in research field (75%) ;</li> <li>- research funding from private sources (25%).</li> </ul>

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State	Input criteria	Performance indicators
	<ul style="list-style-type: none"> <li>- disabilities;</li> <li>- adult students.</li> </ul>	
GREECE	<ul style="list-style-type: none"> <li>- number of students balanced with the study programme;</li> <li>- number of professors;</li> <li>- number of departments;</li> <li>- number of professors having duties in the research field;</li> <li>- negotiation of budget with the funding body on the entity's budgetary forecast and the previous costs.</li> </ul>	There are used various indicators of quality and performance according to the new laws of universities.
FRANCE	<ul style="list-style-type: none"> <li>- number of students registered in a national licence programme or contest;</li> <li>- number of professors;</li> <li>- surface of the entity;</li> <li>- types of available programmes.</li> </ul> <p>The teaching time is calculated in hours/student and this is different according to the types of offered programmes. The system is very technical and thus, it integrates correction factors and compensation mechanisms.</p>	The contracts between the state and institutions set up the objectives and their related performance indicators allowing the evaluation of results.
HUNGARY	<ul style="list-style-type: none"> <li>- number of grant-aided study places and cost/student weighting in accordance with specialization and manner of frequency (day school or reduced frequency);</li> <li>- number of academic personnel employed as researchers or lecturers and the number of candidates registered for doctoral studies at the state financed education.</li> </ul>	<p>For 12% of global funding there are various performance indicators:</p> <ul style="list-style-type: none"> <li>- awarded diplomas;</li> <li>- types of lectures;</li> <li>- indicators of the research activities.</li> </ul>
AUSTRIA	A procedure of formal negotiation leading to a performance contract determines 80% of the grant.	<p>Number of students registered for licence and master programmes with normal duration</p> <ul style="list-style-type: none"> <li>- number of diplomas awarded (in accordance with the speciality type);</li> <li>- number of licence and master qualifications awarded during a normal period of study;</li> <li>- number of doctoral degrees awarded (in accordance with the speciality), the quantity of revenues obtained from research and development projects;</li> <li>- number of teachers of female sex;</li> <li>- number of women graduates of doctoral programmes;</li> </ul>

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State	Input criteria	Performance indicators
		- number of students admitted at master or doctorate programmes, with licence diplomas obtained outside Austria.
PORTUGAL	<ul style="list-style-type: none"> <li>- number of students at all the lectures approved for public funding;</li> <li>- average costs of personnel (indirect measures of qualification);</li> <li>- ratio of professors/students;</li> <li>- ratio of professors/non-academic personnel;</li> <li>- the funding depends on the costs of reference calculated with the same criteria for each institution, using a set relationship between current expenses and personnel costs (15/85);</li> <li>- budget negotiation with the funding body on the basis of the entity's budgetary forecast.</li> </ul>	<ul style="list-style-type: none"> <li>- the academic body's level of qualifications (the ratio represents the personnel with doctorate diploma out of the total of the academic personnel);</li> <li>- rate of graduation (first cycle);</li> <li>- rate of graduation at post university level (master and doctorate);</li> <li>- classification on merits;</li> <li>- results of assessment; assessments refer to the entity's results, for example in respect of the teaching process;</li> <li>- level of teaching personnel's qualifications;</li> <li>- on-going research activities;</li> <li>- didactic and academic facilities;</li> <li>- graduates' integration on the labour market;</li> <li>- managerial and organizational efficiency.</li> </ul>
SLOVENIA	For 70% real expenses of the previous year + 25% calculated in accordance with the registrations for the day lectures and with the cost/student balanced with the study programme.	Number of students who got qualifications in the previous year, in accordance with the study programmes, balanced with the ratio students/graduates for the relevant study programme.
FINLAND	Number of qualifications at master and doctorate level that the university is going to award during the period set into the performance agreement multiplied with cost per unit which reflects the differences between specializations and political priorities.	For 32,5% of the global funding: <ul style="list-style-type: none"> <li>- number of qualifications at master and doctorate level really awarded during the period set into the performance agreement;</li> <li>- number of academic issues and other quality, efficiency and social impact indicators.</li> </ul>
SWEDEN	<b>First and second cycle study programmes</b> Number of students registered for day lectures multiplied with revenue per unit for each specialization.	<b>First and second cycle study programmes</b> For 30% of the global financing: <ul style="list-style-type: none"> <li>- number of students registered for day lectures passing the exams multiplied with revenue per unit for each specialization.</li> </ul>

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State	Input criteria	Performance indicators
ENGLAND AND NORTH IRELAND	<b>Didactic grant</b> Number of students finishing the study year, weighted by factors related to study object, factors related to students (reduced frequency lectures and those requiring partnerships between the institutions and employers involve higher costs), as well as factors related to the entity (functioning in London, specialized institutions, small ones and historical buildings involve higher costs). There is additional weighting taking into account the high prices of enlistment and support of students belonging to under-privileged and non-traditional environments, as well as the support of those with disabilities, in order to emphasize the success of the entity in recruiting and keeping these students.	
WALES	<b>Didactic grant</b> Number of credits gathered by students, weighted by factors related to the study object. A very small part of the grant is allocated according to other factors. There are included here the gratifications taking into account the additional cost of recruiting and supporting the students belonging to under-privileged and non-traditional environments, as well as the support of those with disabilities, in order to emphasize the success of the entity in recruiting and keeping these students.	
BULGARIA	<ul style="list-style-type: none"> <li>- number of grant-aided places for licence and doctorate;</li> <li>- weighting of normative cost per student according to specialization.</li> </ul> <b>Research components:</b> the amount is usually set up based on: <ul style="list-style-type: none"> <li>- some parts of the costs from previous years;</li> <li>- the institution capacity in the research field;</li> <li>- institution nature;</li> <li>- entity's potential to develop itself in the field.</li> </ul>	Results of assessment and accreditation of the institutions of higher education.
ESTONIA	<ul style="list-style-type: none"> <li>- occupancy of the study places;</li> <li>- results of the entrance examinations.</li> </ul>	<ul style="list-style-type: none"> <li>- Number of graduates according to the academic level on groups of specializations, or if the case, specializations or programmes set up into the contract concluded between the institution of higher education and the resort ministry.</li> </ul>
ITALY	For 75% of total budget: previous costs. Standard cost per student in different specializations and number of registered students. <b>Additional resources</b> <ul style="list-style-type: none"> <li>- Economic and social conditions within institution area;</li> <li>- Date of institution foundation.</li> </ul>	<b>Additional resources</b> <ul style="list-style-type: none"> <li>- diminution of the abandon rate at the end of the first year;</li> <li>- increase of graduates number, balanced to consider the number of years required to obtain the qualification;</li> <li>- active involvement of the institution into the academic or scientific research;</li> <li>- diminution of the personnel costs.</li> </ul>

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State	Input criteria	Performance indicators
ROMANIA	For 80% of global funding; - number of students for grant-aided places, according to the study level and programme type, balanced with equivalence coefficients expressing the financial effort (associated to the speciality and educational type).	For 20% of global funding; - didactic personnel quality; - research capacities, infrastructure quality; - libraries and informing resources; - management and social services.
POLAND	- number of day students; - number of day doctoral students; - number of academic personnel considered together with the cost indices for different specializations. Also, the previous costs are considered.	The professors' level of qualification.
DENMARK	—	- number of students registered for day lectures passing the exams; - cost per student weighting in accordance with specialization.
LATVIA	- number of grant-aided places allocated to the entity; - basic cost per student weighting in accordance with specialization.	Compliance with previous contracts in respect of number of places offered and number of graduates.
THE NETHERLANDS	<b>Universities</b> - number of first year students enrolled (13%); - set budget (37%) ; - number of candidates for doctorate.	<b>Universities</b> Number of graduates (50%).

**Source:** adaptation after Eurydice, 2007.

The most frequent performance indicators of didactic and pedagogical activities are focused on the students' results measured through the number of graduates. The performance indicators from the Czech Republic, Italy and Austria offer special importance to the compliance with standard study period.

Into the Flemish community from Belgium, in Ireland (universities) and Scotland the performance criteria and indicators focus only on research but this aspect is being changed into the Flemish community from Belgium and in Ireland.

The relativity concerning the results or the performance indicators focused on results for setting up the public funds quantum is different from one country to another. In Estonia, the entire allocation of public funds is set up in accordance with performances pursuant to the contract of the entities in respect of the number of graduates. Also, in England, performance is a major factor for setting up the funding formula. In Sweden, 45% of the public funds allocated for the university education are granted according to the performances of day school students of every year of study, and in the Netherlands, the obtained performances represent 50% of the "educational" component of the public funds received.

Performance is an essential component at university level and shows that countries like Finland (since 2007) and Norway allot approximately one third of their funds in accordance with performance. In Lithuania, Hungary and Romania the institutions performance is taken into account on a scale from 12% to 20 % of total funding assigned to the teaching and functional activities, as well as to the research.

Nevertheless, the situation is not everywhere similar, due to the fact that the importance given to results when establishing the public funding quantum is significantly different from one country to another (Strehl, Reisinger et al., 2007). In Estonia and Latvia the aim of public funding is to get performances, and this is regulated by contract based on a set number of graduates on each discipline. England is by far one of the countries (Levacic, 2001), where the financing granted to the institutions depends to a larger extent on performances, understanding by this the fact that the students' graduation of the schooling years and the quality of research. In Denmark the funding of teaching activities depends only on students' performances.

But there are countries such as Lithuania where there are no performance indicators linked to the teaching activity for the formula used in calculating the annual state budget allocated to the institutions of higher education. Instead, for setting up the assigned amounts, there are taken into consideration the results regarding the quality of study programmes or the research performance having resulted from the assessment of institutions or study programmes towards accreditation.

In Portugal, when calculating the public funds quantum allocated to the institutions of higher education, there are taken into account the results of the evaluations determined by the National Council of Higher Education Assessment, as well as the performance indicators.

There are signs that this close association between funding and performances is not everywhere present. For example, in Ireland (universities) and Italy, this percentage is 5% or even lower, whereas in Denmark and Austria (universities), only performance indicators are used in the funding formula.

Reforms are being implemented (Scott, 2003) in most countries where the institutions funding depends very little or at all on the students' performances or the research activities (Francophone and Germanophone communities in Belgium, Bulgaria, Greece, Spain, Cyprus, Malta).

According to some authors (Salmi and Hauptman, 2006), it is important for the public funds allocation to be based to a little extent on institutional performances and this should be taken into account together with the number of students. It is really an important issue the percentage from the entity's budget represented by performance indicators.

Performance indicators can be a stimulus for the increase of effectiveness of the "educational product" (in respect of number of graduates, rates of study abandon and others); though indicators might not be the best mechanism of funding when promoting quality (Truffin, 2006). Taking into account this aspect, the performance contracts based on set objectives allow a more precise analysis of the institutional achievements in various fields.

#### 4. Conclusions

A short review of recent studies and international sources regarding the challenges related to the public funding of university education points out the fact that current financing models lead to some issues referring to their advantages and disadvantages.

It is a popular method to use a funding formula for the allocation of funds to the university institutions and it is very often lined up with the objective of achieving transparency in distributing funds among institutions. However, various aspects of these formulae raise debates.

In our opinion, to use performance indicators into the funding formulae, especially the number of students passing their exams or the number of graduates, is a stimulus for decreasing the number of students who abandon or shorten their studies. Nevertheless, this could lead to a decrease in the academic requirements while the entities are trying to improve their results. In this respect, the quality systems, as well as external assessment, play an essential role.

Therefore, the institutions of higher education are fully responsible in front of the society and especially in front of the public authorities for the received public funds, the responsibility measures encompassing various forms. The external audit is practiced throughout Europe. Reporting to sponsor and publishing information into public databases are also very popular methods. In terms of allocating public funds, most of the European countries have responsibility measures through resorting to performance indicators focused on the students' results and the research activities of the entities.

Moreover, encouraging competition among the institutions of higher education by the mechanisms of public funding is another feature of the state supervising model, being a well-known phenomenon in Europe.

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